

## PATENT SPECIFICATION

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## DRAWINGS ATTACHED

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## (54) IMPROVEMENTS IN LIQUID SEALING TRAPS

(71) We, JAMES EDWARD MCALPINE, a British subject, and MCALPINE & COMPANY LIMITED, a British Company, both of Kelvin Avenue, Hillington, Glasgow, S.W.2., Scotland, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention has reference to liquid sealing traps of the kind comprising an inlet pipe for connection to the outlet pipe of a wash hand basin, sink or bath, a cylindrical or other head carried by said pipe, this head having a laterally extending outlet branch for connection to a waste or soil pipe and a cup removably secured to said head, the pipe stopping short of the bottom of the cup. Such traps are referred to as the kind set forth. Traps of this kind have been provided with a non-return air valve mounted on the cup, said valve opening under the syphonic action of water flowing through the trap and the waste or soil pipe and closing when the syphonic action stops.

According to the present invention a liquid sealing trap of the kind set forth is provided with a non-return air valve mounted on the outlet branch of the trap.

The non-return air valve may have a valve chamber with a supporting duct which places the interior of the chamber in communication with the outlet branch.

A preferred embodiment of the invention will now be described with reference to the accompanying drawings wherein:

Figure 1 is an elevation of the liquid sealing trap in accordance with the invention;

Figure 2 is a plan view thereof;

Figure 3 is a sectional elevation thereof; and

Figure 4 is a section of the line 4—4 of Figure 3.

The liquid sealing trap shown in the drawings comprises an inlet pipe 10 which at its upper end is adapted to be coupled by any

suitable means to the outlet pipe of a wash hand basin, sink, bath or the like. Formed integral with or secured to the said pipe is cylindrical head 11 closed at the top thereof and open at the foot thereof. This head is provided with an outlet branch 12 which, towards its outer end has an external screw thread for connection to a waste pipe. The head also has an external screw thread on which is screwed the upper end of a cup or bottle 13 as it is usually called. The said inlet pipe 10 stops short of the bottom of the bottle and its lower end is thereby sealed by the liquid trapped in the bottle.

Formed integral with said outlet branch 12 and extending upwardly therefrom is a duct 14 which carries a valve chamber 15 which extends laterally over and above the outlet branch 12. This chamber has a tapered annular valve seat 16 projecting upwardly from the base of the valve chamber, the valve seat forming a passage communicating with the exterior above the branch. A non-return valve member 17, which has a similarly tapered wall, normally seats on the valve seat and is retained within the valve chamber by means of a screwed on cover 18.

Normally the bottle 13 will contain liquid which forms an effective seal between the inlet pipe 10 and the outlet branch 12.

Should suction develop in the bottle due to the syphonic action of the liquid which has been discharged through the outlet branch a minus pressure is transmitted to the valve chamber 15 above the non-return valve member 17 which is thereby raised off its seat to place the interior of the outlet branch in communication with the atmosphere. That is air now passes into the outlet branch to break the syphonic action which might otherwise withdraw the sealing liquid from the bottle.

When the syphonic action ceases the non-return valve member 17 drops back on its seat so that no liquid or air can pass through the valve chamber to the exterior.

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This liquid sealing trap is particularly suitable for application to pedestal basins because the non-return valve chamber being mounted on the outlet branch will not foul the pedestal.

5 WHAT WE CLAIM IS:—

1. A liquid sealing trap of the kind set forth provided with a non-return air valve mounted on the outlet branch of the trap.

10 2. A liquid sealing trap as claimed in Claim 1 wherein the non-return air valve has a valve chamber with a supporting duct which places

the interior of the chamber in communication with the outlet branch.

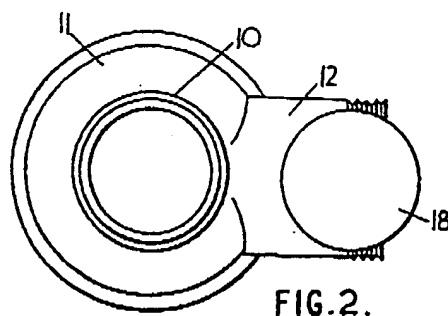
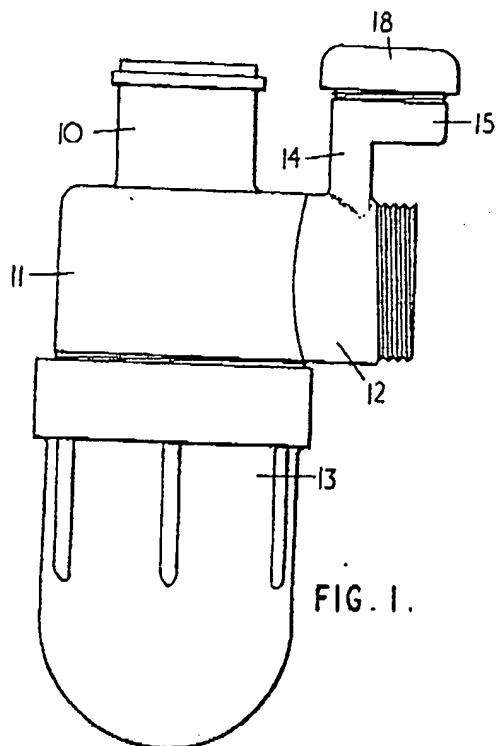
3. A liquid sealing trap substantially as herein described and illustrated by the accompanying drawings. 15

MARKS & CLERK,  
Chartered Patent Agents,  
Agents for the Applicants.

Reference has been directed in pursuance of Section 9, subsection (1) of the Patents Act, 1949, to patent No. 856,064.

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1220982 COMPLETE SPECIFICATION  
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the Original on a reduced scale*  
Sheet 1



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COMPLETE SPECIFICATION

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*This drawing is a reproduction of  
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Sheet 2

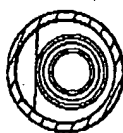
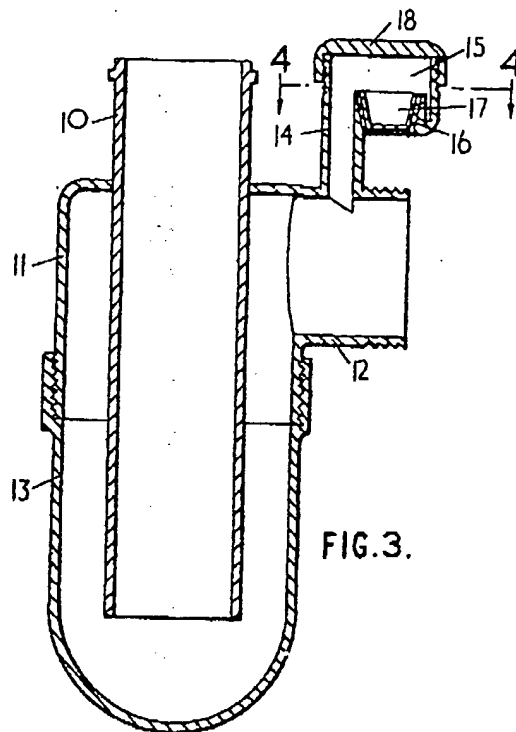


FIG. 4.